REMARKS

This is a simultaneous amendment with a request for continued examination filed in accordance with 37 C.F.R. 1.114 in response to the final Office Action dated January 29, 2007.

I. ALLOWED SUBJECT MATTER

Method of manufacturing claim 16 was allowed. The reasons for allowing this subject matter are given on page 6 of the final Office Action. Claim 16 has been repeated above and remains pending.

All of the remaining previously pending claims 8, 9, 12 to 15, and 17 were canceled.

II. NEW CLAIMS NOT LIMITED TO A GLASS LENS

New plano-convex lens claims 18 to 20 are not limited to a glass aspheric lens (see below for the basis for claims limited to a glass lens). However they are limited to a lens that is plano-convex, i.e. to a lens that has a convex surface on one side and a plane surface on its other side. Basis for the limitation to the plano-convex lens is found in the parts list on page 7 of the originally filed

application papers. On page 7 the surface 2 is described as a convex surface and also the surface of the lens shown in the drawing is clearly convex. Corresponding changes have also been made in the detailed description on pages 3 and 4 of the originally filed specification to limit the example of the lens described in the detailed description to a plano-convex lens and the surface 2 to a convex surface.

Otherwise the plano-convex lens claims 18 to 20 contain the same elements as the canceled lens claims filed in the amendment dated November 13, 2006. However the wording describing the manner in which the elements are connected and cooperate with each other has been made more concise and clear.

Also product-by-process wording is not used in the new lens claims 18 to 20. The concave surface 2 and the plane surface 3 are limited to bright pressed surfaces. A bright pressed surface is known to a have **structural differences** from other surfaces, such as those that are processed by grinding and polishing. Surfaces that are ground and polished have grooves, while bright pressed surfaces are fire polished and smooth. An aspheric lens made by "blank pressing" or "compression molding" has an easily recognizable higher surface quality than an aspheric lens made by the more traditional method of machining comprising grinding and polishing steps. A prior art reference from Fraunhofer Institut Werkstoffmechanik and its English translation have been filed previously to show that this difference is well known and appreciated in the art.

One contribution of the applicants has been to recognize that a plano-

convex lens can be designed with a supporting edge 5 that permits the bright pressing of both sides of the aspheric lens. See page 2, lines 10 to 15, of applicants' originally filed specification.

Claim 24 claims a projection headlight of a motor vehicle including the plano-convex lens of claim 18. Otherwise this new independent projection headlight claim is similar to canceled claim 14, but avoids non-limiting wording that implies an intended use, instead of structure. For example, the preposition "of" replaces the preposition "for" in many cases. The "headlight" is "of" a motor vehicle. Also somewhat more concise wording is used to particularly point out the inventive features of the claimed invention.

III. NEW CLAIMS LIMITED TO A GLASS LENS

New plano-convex lens claims 21 to 23 are limited to a glass lens. Also they are limited to a lens that is plano-convex, i.e. to a lens that has a convex surface on one side and a plane surface on its other side. Basis for the limitation to the plano-convex lens is found in the parts list on page 7 of the originally filed application papers, as noted above. Corresponding changes have also been made in the detailed description on pages 3 and 4 of the originally filed specification to limit the example of the lens described in the detailed description to a plano-convex lens that is made of glass and has a convex surface 2.

Although the originally filed disclosure did not explicitly state that the example of the lens described in the detailed description was made of a glass

material, the sum total of the information regarding that lens provided in the disclosure would leave one skilled in the art to conclude that the only material that the lens could be made of is an inorganic glass material.

First, only inorganic glass materials can be "bright pressed" or "blank pressed". Plastic materials cannot withstand the comparatively high temperatures used in compression molding as explained in the article filed with the previous amendment by Fraunhofer Institut Werkstoffmechanik. Thus the lens shown in figs. 1 and 2 must be a glass lens.

Second the preferred use for the lens is in a projection headlight of a motor vehicle. However it is well known that plastic lenses cannot be used in projection headlights of motor vehicles. The light distribution intensity of a headlight is prescribed by law and must not vary significantly, however the large thermal expansion coefficient of thermoplastic material compared to glass material results in shape changes when the headlight is operated and heats up. The result is that a headlight system with thermoplastic lens and lens holder would not have constant and reliable optical properties, so that in practice only glass lenses are used in headlight systems. This reason alone is enough to conclude that the lens shown in fig. 2 is a glass lens, not a plastic lens.

In addition, the drawing figures may be a source of disclosure that can be used to provide the basis for claim changes. The figs. 1 and 2 have cross-hatching that is clearly indicative of a transparent material according to M.P.E.P. 608.02, which is further evidence that the applicants' intend that the lens shown in the drawing is a glass lens.

Furthermore a plastic lens would **not** be cooled in a furnace! See page 2, line 20, of the originally filed specification. This is further evidence that applicants' novel lens is disclosed to be made of glass.

Thus the sum total of the information in the disclosure clearly shows that the lens is **inherently** disclosed to be limited to a glass lens. Changes made in a claim by an amendment during prosecution do not always need to be supported by explicit wording as long as there is information clearly disclosed in the specification that would lead one skilled in the art to conclude that the change had support in the originally filed specification. See e.g. *In re Nathan*, 140 USPQ 601 (C.C.P.A. 1964).

IV. NEW ABSTRACT AND TITLE

A new (amended) abstract that contains the subject matter of the new lens claim 18 has been provided above. The latest prior version of the abstract appears in the simultaneous amendment filed with the original application papers on the filing date of the above-identified U.S. Patent Application.

An amended title of the invention that describes the invention as it is now claimed somewhat better has been provided above.

V. SPECIFICATION CHANGES

Some additional standard section headings have been added to the specification. The latest versions of the specification paragraphs are found in the amendment filed on July 25, 2006 (please also note the change made in the drawing by that amendment) and also in the simultaneous amendment that was filed on the filing date of the above-identified U.S. Patent Application with the original application papers.

A minor wording change was made in the "summary of the invention" section to better support the claim wording of the new lens claims.

The brief description of figures 1 and 2 was amended to include a more complete characterization of these figures. The additional description is clearly supported by figures 1 and 2 and the disclosure in the following detailed description.

The detailed description on pages 3 and 4 was amended to describe the example of the lens in the detailed description as a "plano-convex" lens. The basis for this description is found on the parts list on page 7 of the application, as noted above. Also the lens is described as a glass lens. The basis for this change is seen in the cross-hatching shown in figs. 1 and 2 and other facts disclosed in the application, as explained above.

VI. OBVIOUSNESS REJECTION

Claims 8, 9, 12 to 15, and 17 were rejected under 35 U.S.C. 103 (a) as obvious over Iwase, et al (US '844).

Claims 8, 9, 12 to 15, and 17 have been canceled, obviating their rejection on these grounds. New claims 18 to 27 have been filed.

New claims 24 to 27 are claims for a projection headlight of a motor vehicle. Claims 24 and 25 are limited to a projection headlight containing the plano-convex lens of claim 18, which is held in the **metal** holder shown in fig. 2 and described in applicants' specification. Claims 26 and 27 are limited to a projection headlight containing the glass plano-convex lens of claim 22, which is held in the same **metal** lens holder as in claim 24. That applicants' lens holder of claims 24 and 26 contains metal parts is clearly stated in the 3rd line of the 3rd paragraph of both claims ("sheet metal").

In contrast Iwase, et al, describes and claims a **plastic** lens holder for a disposable camera as shown by consulting column 2, lines 6 to 22, especially line 7, and as claimed in claims 2 to 5, of US '844. Furthermore the disclosure regarding production and recycling in column 1, lines 23 to 27 and 34 to 39, makes it clear that the only materials that are contemplated for the lens and lens holder are plastic resin materials. Also see column 3, lines 19 to 24.

In contrast to the reasons for rejection on page 4, about line 12, of the Office Action, column 3, lines 50 to 60, does **not** contain any teaching that the

plastic holder 3 contains any metal parts. The lens holder claim 3 begins "A **plastic** lens holder". The disclosure in column 2 states that the lens holder is plastic. Perhaps the confusion is partly due to the showing of the jaws 33 in fig. 5, which are part of a removing tool that is used to break apart the disposable camera for the purpose of recycling parts (see column 4, line 45 and following). The jaws 33 are not part of the lens holder, but only of a tool that is used to work on the camera.

The same is true of the tool 5 used to assemble the lens in the lens holder (column 3, line 65). The disclosure of US '844 regarding the caulking tool 5 with heated feet 24 in column 3, line 63, and following make it clear that the materials of the lens holder must be easily deformed by heating. A metal lens holder, like the applicants' claimed lens holder of claims 24 to 27, could not be thermally deformed with a caulking tool.

Thus US '844 contains disclosure that requires one skilled in the art to do the opposite from the claimed invention. According to US '844 the lens holder must be entirely plastic. In complete contrast thereto, the holder 10 of the headlight claims 24 to 27 must be metal. This critical difference is due to the higher operating temperatures for the headlight of a motor vehicle, which range from - 40°C to 70°C due to their high power output and associated heat dissipation. The disposable camera need only operate at normal ambient conditions because large amounts of heat are not dissipated when the camera operates.

It is well established that a prior art reference that teaches doing the

opposite from a claimed invention should **not** be used under 35 U.S.C. 103 (a) to reject the claimed invention as obvious. See M.P.E.P. 2145 X. Also, the Federal Circuit Court of Appeals has said:

> "In determining whether such a suggestion [of obviousness] can fairly be gleaned from the prior art...It is indeed pertinent that these references teach against the present invention. Evidence that supports, rather than negates, patentability must be fairly considered." ***In re Dow Chemical Co.,*** 837 F.2nd 469,473, 5 U.S.P.Q.2d 1529, 1532 (Fed.Cir. 1988)

Claims 24 to 27 teach that the holder should be primarily **sheet metal**, whereas the reference US '844 teaches that it should be entirely **plastic**. The plastic holder of the Iwase reference would soften and deform in high power headlights. With respect to this issue Iwase, et al, teach against the limitations in the presently claimed headlight.

Claims 26 to 27 further teach that the lens must be a glass lens. The materials of the lens should be glass for the same reason that the holder should not be plastic. Column 1, lines 34 to 38 and 23 to 27, of US '844 make it clear that the lens as well as the lens holder of US '844 is to be a plastic material.

In addition a headlight cannot function properly with a plastic lens because of the high operating temperatures in the headlight. The thermal expansion coefficients of plastics, namely about $70 \times 10^{-7}\ K^{-1}$, are much higher than those of glass, namely about $3 \text{ to } 7 \times 10^{-7}\ K^{-1}$. The plastic lens would soften and lose its stability at the operating temperatures of headlights. Plastics would creep under the influence of heat and mechanicals stresses due to the high stresses and shocks that a headlight experiences in a motor vehicle. Also thermal relaxation is

comparatively slow with plastic products. The result would be a headlight system with variable and unreliable optical properties, which would make it more difficult for the headlight system to consistently meet required legal specifications.

Also Iwase, et al, does not meet several limitations of the current lens claims 18 to 23. For example, Iwase, et al, do **not** disclose a lens that has a continuous cylindrical outer circumferential surface 45 extending over both the holding edge 5 and the supporting edge 5 as claimed in lens claim 18. In contrast to the reasoning in paragraph 2 of the final Office Action the corresponding outer side surface of the edge 4c of US '844 is displaced or set back (i.e. a discontinuity is produced) from the outer side surface of the supporting edge 4b of Iwase, et al (figs. 3A and 3B). This allows a firmer more stable holding of the lens in the lens holder in the case of the applicants' lens, because the wall of the lens holder bears on a greater outer side surface of the lens.

Also Iwase, et al, does not disclose a plano-convex lens, but instead a convexo-concave lens, as claimed in claims 18 to 23.

In addition, Iwase, et al, does not disclose a glass lens as claimed in claims 21 to 23.

It is well established by many U. S. judicial decisions that to reject a claimed invention under 35 U.S.C. 103 there must be some hint or suggestion in the prior art of the modifications of the disclosure in a prior art reference or references used to reject the claimed invention, which are necessary to arrive at the claimed invention. For example, the Court of Appeals for the Federal Circuit has said:

"Rather, to establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant...Even when obviousness is based on as single reference there must be a showing of a suggestion of motivation to modify the teachings of that reference.." ***In re Kotzab***, 55 U.S.P.Q. 2nd 1313 (Fed. Cir. 2000). See also M.P.E.P. 2141

There is no hint or suggestion of many modifications required to obtain the limitations of the new claims 18 to 27. For example, there is no suggestion that the lens should be plano-convex and/or glass. There is no suggestion in the prior art that the metallic lens holder of the applicants' claims 24 to 27 should replace the plastic lens holder of Iwase, et al, since that is not possible or desirable in the case of a disposable camera.

It is well established that a proposed modification under 35 U.S.C. 103 (a) cannot render the prior art unsatisfactory for its intended purpose (see M.P.E.P. 2143.02). One required modification here is the replacement of the plastic lens by a glass lens and the replacement of the plastic lens holder with a metal lens holder. These replacements would render the Iwase, et al, assembly comprising the plastic lens and plastic lens holder unsatisfactory for their intended purpose because the lens could not be recycled as described in column 1 with the disassembling tool 33 as explained in column 4 of Iwase, et al. Also the metal lens holder cannot be deformed with a hot caulking tool 5 as explained in column 3, so that neither the lens nor the lens holder could perform their function if modified according to the applicants' new claims.

With respect to the lens claims 18 to 23 US '844 does not disclose or suggest the limitation that the lens surfaces are bright pressed surfaces. These surfaces have definite characteristics that are readily identified and have a different structure than prior art surfaces made in different ways. This limitation is not merely a product-by-process limitation.

In addition The cylindrical flange 4c of the lens of US '844 is the stop for the lens in the lens holder 3 and the fixing claws 6a of the lens holder 3 fix the lens of US '844 from the side (fig. 6a) or from above (fig. 6b). In contrast, the upper side of the holding edge 4 is the stop of the lens of the present invention (figs. 1 and 2) and the lens is fixed in the metallic holder by clamping from underneath.

For the foregoing reasons and because of the new limitations included in the new claims 18 to 27, it is respectfully submitted that new claims 18 to 27 should **not** be rejected under 35 U.S.C. 103 (a) over Iwase, et al, US Patent 6,469,844.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,

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